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Mineralogical Analysis of Thunder Mountain Quartzite Determining Age Relationships in the Mountain Shear Zone, Oconto County, Wisconson

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MINERALOGICAL ANALYSIS OF THE THUNDER MOUNTAIN QUARTZITE: DETERMINING AGE RELATIONSHIPS IN THE MOUNTAIN SHEAR ZONE, OCONTO COUNTY, WISCONSIN

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The Mountain Shear Zone in Oconto County, Wisconsin, is comprised of metaigneous and metasedimentary rocks accumulated as part of the Wisconsin Magmatic Terrance, a volcanic island arc complex approximately 1.9 billion years old. The Shear Zone was severely deformed as the result of the Penokean Orogeny, ca. 1.85 billion years ago. This deformation presents many problems in determining the stratigraphic correlation of strata. In particular, the relative ages of the Thunder Mountain Quartzite and the Baldwin Conglomerate are in question. Chemical and mineralogical analysis of the heavy mineral assemblage of these rocks may shed new light on regional stratigraphic correlations. This paper presents a preliminary report of the chemical analysis of garnets and zircons from the Thunder Mountain Quartzite and the Baldwin Conglomerate.